

In the Claims

Kindly cancel claims 1 – 6, 8, 13-15, 20-21, and 26 – 35; and insert new claims 36 – 51 as shown in the following listing of the entire claims in the Application.

1 – 6. (Canceled).

7. (Withdrawn) A polynucleotide encoding the hybrid polypeptide of claim 1.

8. (Cancelled)

9. (Withdrawn) A cell transfected or transformed with the polynucleotide of claim 7.

10 - 12. (Cancelled)

13 – 15. (Cancelled).

16 – 19. (Cancelled)

20 – 21. (Cancelled)

22. (Withdrawn) A method for treating an allergic disorder comprising administering the pharmaceutical composition of claim 20 to a patient in need thereof.

23. (Withdrawn) A method for inducing tolerance to a given allergen, comprising administering the pharmaceutical composition of claim 20 to a patient in need thereof.

24. (Withdrawn) A method for providing immunity to a given allergen, comprising administering the pharmaceutical composition of claim 20 to a patient in need thereof.

25. (Withdrawn) A method for detecting antibodies against a given allergenic protein in a sample, comprising conducting *in vitro* antibody tests employing the hybrid polypeptide of any one of claims 1 to 6 or conducting *in vitro* or *in vivo* cellular-based tests employing the hybrid polypeptide of any one of claims 1 to 6.

26 – 35. (Cancelled).

36 (new) A method of identifying plant hybrid allergens for treatment of IgE-mediated hypersensitivity to the respective wild-type allergens comprising the steps of:

- (a) providing a fusion allergen of naturally occurring plant allergens;
- (b) challenging an immunological model with said fusion allergen;
- (c) selecting as candidate immunotherapeutic agents, those fusion allergens which induce IgE-blocking antibodies and have reduced allergenic activity compared with the respective wild-type allergens.

37. (new) The method of claim 36, wherein the hybrid allergen is a fusion protein of two or more wild-type allergens.

38. (new) The method of claim 36, wherein the hybrid allergen is a fusion protein of fragments of two or more wild-type allergens.

39. (new) The method of claim 36, wherein the hybrid allergen is a fusion protein of fragments of two or more wild-type allergens, and wherein each fragment contains at least eight consecutive amino acids of the wild-type allergen.

40. (new) The method of claim 37, wherein the hybrid allergen is a fusion protein of one or more modifications of at least one of the two or more wild-type allergens.

41. (new) The method of claim 36, wherein the hybrid allergen is prepared by chemical synthesis.

42. (new) A method of preparing hybrid plant fusion polypeptides for use as immunotherapeutic agents comprising:

- (a) providing a polynucleotide encoding the plant fusion polypeptide;
 - (b) introducing said polynucleotide into a host cell;
 - (c) culturing the host cell obtained in b) under conditions such that the fusion polypeptide is expressed; and
 - (d) recovering the expressed plant hybrid polypeptide from the cultured host cell;
- wherein said fusion polypeptide, upon administration into a patient induces IgE-blocking antibodies and has reduced allergenic activity compared with the respective wild-type allergens.

43. (new) The method of claim 42, wherein the polynucleotide encoding the plant fusion polypeptide is obtained using PCR technology.

44. (new) A method of treating IgE-mediated hypersensitivity to plant allergens comprising administering to a patient in need of such treatment, a pharmaceutical composition comprising one or more hybrid plant fusion allergens as immunotherapeutic agents, wherein said agents have been identified by a method comprising the steps of:

- (a) providing fusion allergens of naturally occurring plant allergens;
- (b) challenging an immunological model with said fusion allergen;
- (c) selecting as candidate immunotherapeutic agents, those fusion allergens which induce IgE-blocking antibodies and have reduced allergenic activity compared with the respective wild-type allergens.

45. (new) A pharmaceutical composition comprising one or more hybrid plant fusion allergens as immunotherapeutic agents, wherein said agents have been identified by a method comprising the steps of:

- (a) providing fusion allergens of naturally occurring plant allergens;
- (b) challenging an immunological model with said fusion allergens;
- (c) selecting as candidate immunotherapeutic agents, those fusion allergens which induce IgE-blocking antibodies and have reduced allergenic activity compared with the respective wild-type allergens.

46. (new) A hybrid allergen for treatment of IgE-mediated hypersensitivity, wherein said hybrid allergen is a fusion protein of two or more timothy grass pollen allergens.

47. The hybrid allergen of claim 46, wherein said hybrid allergen is a fusion protein of two or more proteins selected from the group consisting of timothy grass pollen allergens rPhl p 1, rPhl p 2, rPhl p 5, and rPhl p 6.

48. (new) The hybrid allergen of claim 46, wherein said hybrid allergen is a fusion protein of at least one or more fragments of timothy grass pollen allergens rPhl p 1, rPhl p 2, rPhl p 5, and rPhl p 6, wherein said hybrid allergen has been selected by a method comprising the steps of:

(a) challenging an immunological model with said hybrid allergen;
(b) selecting those hybrid allergens which induce IgE-blocking antibodies and have reduced allergenic activity compared with the respective wild-type allergens.

49. (new) The hybrid allergen of claim 48, wherein each fragment of said hybrid allergen contains at least eight consecutive amino acids of the wild-type allergen and wherein said hybrid allergen has been selected by a method comprising the steps of:
(a) challenging an immunological model with said hybrid allergens;
(b) selecting those hybrid allergens which induce IgE-blocking antibodies and have reduced allergenic activity compared with the respective wild-type allergens.

50. (new) The hybrid allergen of claim 45, wherein said hybrid allergen is a fusion protein of at least one or more modifications of timothy grass pollen allergens rPhl p 1, rPhl p 2, rPhl p 5, and rPhl p 6, wherein said hybrid allergen has been selected by a method comprising the steps of:
(a) challenging an immunological model with said hybrid allergen;
(b) selecting those hybrid allergens which induce IgE-blocking antibodies and have reduced allergenic activity compared with the respective wild-type allergens.

51. (new) The hybrid allergen of claim 45, wherein said hybrid allergen is a fusion protein of at least one or more modifications of fragments of timothy grass pollen allergens rPhl p 1, rPhl p 2, rPhl p 5, and rPhl p 6, wherein said hybrid allergen has been selected by a method comprising the steps of:
(a) challenging an immunological model with said hybrid allergen;
(b) selecting those hybrid allergens which induce IgE-blocking antibodies and have reduced allergenic activity compared with the respective wild-type allergens.